REMARKS

Claims 1 and 3-20 are pending in the application upon entry of the amendments. Claim 1 has been amended to better describe certain aspects of the invention. Claim 2 has been cancelled without prejudice. Claim 4 has been amended to depend on claim 1. Favorable examination in light of the amendments and remarks which follow is respectfully requested.

Claim Objection

Claim 4 has been objected to under 37 CFR 1.75(c). Claim 4 has been amended to depend on claim 1. Withdrawal of this objection is respectfully requested.

Indefiniteness Rejection

Claims 1, 3-8, 11, 12, 15, 16, and 18 have been rejected under 35 U.S.C. § 112, second paragraph. Claim 1 has been amended to recite the heating act, as indicated in the previous section. The amendment is supported by the specification, for example, from page 25, line 4 to page 27, line 23 and Example 1. Withdrawal of the rejection is respectfully requested.

Anticipation Rejection Involving Wu

Claims 1-4, 6-9, and 14-20 have been rejected under 35 U.S.C. §102(e) over Wu (US Patent No. 6,770,572). Wu relates to a process for treating a silica film involving reacting the silica film with a surface modification agent (Abstract of Wu).

In order to establish anticipation, each and every feature as set forth in the claim must be disclosed in a single cited art document. The claims relate to a method for modifying a porous film, a semiconductor material containing the modified porous film, and a semiconductor device in which the semiconductor material is used. The method for modifying a porous film involves conducting a thermal treatment at a temperature from 100 °C to 600 °C to the porous film. In

the thermal treatment, the porous film is brought into contact with an organic silicon compound. The contacting is carried out in a gas phase.

Wu fails to disclose a thermal treatment in which a porous film is brought into contact with an organic silicon compound. In Wu, a film on a substrate is treated with a surface modification agent, and "**[t]hereafter**, the substrate and the treated film was heated to a temperature and for a time period sufficient to drive off remaining surface modification agent and solvent" (Column 9, lines 18-20 of Wu). Wu uses a phrase "The film obtained from the above [treating] process was **then heated**" at least nine occasions in the disclosure (*See, for example,* column 13, lines 15-16 of Wu). That is, Wu requires a two-step process involving 1) treating a film with a surface modification agent solution and then 2) heating the treated film.

Contrary to the disclosure of Wu, the claims require that in a thermal treatment, a porous film is brought into contact with an organic silicon compound. Thus, Wu not only fails to disclose a thermal treatment in which a porous film is brought into contact with an organic silicon compound, but Wu in fact teaches away from the claims.

Furthermore, Wu fails to disclose contacting a porous film with an organic silicon compound in a gas phase. In Wu, a film is treated in a liquid phase (Column 13, lines 2-9 of Wu). In all the Examples of Wu, a film is treated with a modification agent solution. Thus, Wu fails to disclose contacting a porous film with an organic silicon compound in a gas phase, as required in the claims. Since Wu fails to disclose each and every feature of the claims, Wu cannot anticipate the claims.

In view of the foregoing reasons, withdrawal of this rejection is respectfully requested.

Obviousness Rejection Involving Wu

Claims 5 and 10-13 have been rejected under 35 U.S.C. §103(a) over Wu.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. In order to establish a *prima facie* case of

obviousness, the cited art reference or references when combined must teach or suggest all claim features. *See* MPEP §706.02(j). The claims relate to a method for modifying a porous film involves conducting a thermal treatment at a temperature from 100 °C to 600 °C to the porous film. In the thermal treatment, the porous film is brought into contact with an organic silicon compound. The contacting is carried out in a gas phase. The organic silicon compound is a cyclic siloxane.

As discussed in the previous section, Wu fails to teach or suggest all the features of claim 1. Specifically, Wu fails to teach or suggest a thermal treatment in which a porous film is brought into contact with an organic silicon compound and contacting a porous film with the organic silicon compound in a gas phase. While the Examiner contends that one having ordinary skill in the art would have found the selection of cyclic siloxane based on the teachings of Wu, the aforementioned deficiencies of Wu still remain as unsolved deficiencies. Accordingly, withdrawal of this rejection is respectfully requested.

Obviousness Rejection Involving Martin and Smith

Claims 1-20 have been rejected under 35 U.S.C. §103(a) over Martin (US Patent No. 6,674,140) in view of Smith et al. (US Patent No. 6,395,651, hereinafter "Smith"). Martin relates to a process for forming durable anti-stiction surfaces of a silicon wafer (Abstract of Martin). "This process involves the vapor deposition of a material to create a low stiction surface" (Column 1, lines 59-60 of Martin). A layer of an organo silicon compound is deposited on the silicon wafer (Claim 1 of Martin). Smith relates to a process for forming producing nanoporous silica.

The Examiner contends that "one having ordinary skill in the art would have been motivated by the teachings in Smith et al. to use a nanoporous silica thin film wafer as the wafer being surface treated by Martin" (Page 4 of the Office Action). From this, the Examiner concludes that "the skilled artisan would have found the instant claims obvious" (Page 4 of the Office Action). Applicants respectfully disagree for the following reasons.

It is well know to one having ordinary skill in the art that a porous surface has low stiction and that such a porous surface is utilized for reducing stiction between wafers. The porous surface decreases contact area between the wafers, thereby reducing stiction. Smith's nanoporous silica film has a low stiction surface because of the porous nature of the nanoporous silica film. Martin teaches a process for converting a high stiction wafer surface to a low stiction wafer surface by depositing a low stiction organo silicon layer on the high stiction wafer surface. One having ordinary skill in the art would NOT have confused the objectives and results of the two cited art documents. Since Smith's nanoporous film has a low stiction surface, Smith's nanoporous film must NOT be used as a substrate in the Martine process. One having ordinary skill in the art would NOT have used Smith's low stiction nanoporous silica film as a wafer for forming a low stiction surface.

Martin teaches a process for reducing stiction of a wafer surface. Smith teaches a low stiction nanoporous film. The cited art references not only fail to teach or suggest that Smith's nanoporous film can replace a wafer in the Martin process, but they in fact teach away from the proposed replacement since Smith's nanoporous film has a already-reduced stiction surface. The cited art, therefore, cannot make the subject claims obvious. *See KSR v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727 (2007) *citing United States v. Adams*, 383 U. S. 39, 51-52 (1966) (stating "[w]hen the cited art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be non-obvious").

In this connection, Applicants respectfully request the Examiner to identify where is a factual support in the cited art that shows the asserted motivation to use Smith's low stiction nanoporous film in Martin's stiction reducing process. *See* MPEP 2142 (stating "[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness . . . .").

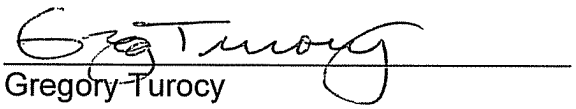
In view of the foregoing reasons, withdrawal of this rejection is respectfully requested.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Respectfully submitted,

AMIN, TUROCY & CALVIN, LLP



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